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UNITED STATES DEPARTMENT OF AGRICULTURE  
 Agricultural Research Administration  
 U.S. Bureau of Animal Industry



Highlights of New Poultry Research

Development of Superior Broiler Chickens -- In an attempt to meet the demand of the broiler industry for better conformation and more rapid growth in young chickens, a new variety of Cornish chicken, known as the Silver Cornish, has been developed at Beltsville by crossing Brooksville Columbians with Dark Cornish, mating the crossbred progeny among themselves and selecting for desirable utility qualities and for silver or Columbian feather pattern. The Silver Cornish at 10 weeks of age had an average breast angle of 57 degrees in 1949 and 58 degrees in 1950. Measurement of the breast angles of Dark Cornish at the same age showed 61 and 62 degrees for the two years. The corresponding figure for New Hampshires in 1950 was 53 degrees. Under range conditions in 1950, the average weights at 10 weeks of age were as follows: Silver Cornish 2.38 pounds, New Hampshires, 2.35 pounds, and Dark Cornish, 2.06 pounds.

Research on Egg Quality Determination -- The basic purpose of this project is to develop methods of determining interior egg quality by mechanical and automatic methods. As a first step toward this goal it was necessary to find a means of describing interior egg quality in a uniform and objective manner. For this, we use broken-out eggs. A set of pictures of broken-out eggs has been developed, which shows the appearance that eggs should have if they are to be called AA, A, B, or C. We have also related a measurement, Haugh units, to these standards of quality. Thus we now have a mathematical figure and a picture which tell without question the quality of the egg. Using these standards we can evaluate the proficiency of candling of any machine that may be developed for determining egg quality in intact eggs.

Present work on a machine is devoted to determining the presence of blood spots. Blood is known to absorb light of certain wave lengths. The problem, therefore, is to control and adjust the light so that such things as egg size and shape, shell color, and yolk color can be compensated for and will not interfere with detection of blood. Certain instruments used in this work are on display.

Effect of Antibiotics on Growth of Chickens and Turkeys -- Aureomycin, bacitracin, penicillin, and terramycin are being used commercially to stimulate growth of chickens and turkeys. They do not improve egg production or hatchability when fed to breeding birds. Their maximum effect on weight of young birds is observed at 6 to 8 weeks of age, but there is still a significant effect at the ages that chicken and turkey broilers are marketed. In one experiment the average live weights of 14-week old Beltsville Small White turkeys fed diets without and with aureomycin were as follows: with 20% protein 2387 and 2580 grams, with 23% protein 2606 and 2604 grams, with 26% protein 2966 and 3004 grams and with 29% protein 2957 and 3088 grams. The basal diet was a good turkey starting mash containing 5% each of meat and fish meals. The level of aureomycin was 9 grams per ton.





